RackMount Solutions Pro

User Manual

Matrix Cat6 IP KVM

MU-IP1613 / 1624

MU-IP3213 / 3224

Matrix Cat6 KVM

MU-1602 / 1603 / 1604

MU-3202 / 3203 / 3204

Legal Information

First English printing, October 2002

Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

Safety Instructions

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing dam age to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labeled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being dam aged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invali date its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - ☐ Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - ☐ Repair or attempted repair by anyone not authorized by us.
  - ☐ Any damage of the product due to shipment.
  - ☐ Removal or installation of the product.
  - ☐ Causes external to the product, such as electric power fluctuation or failure.
  - ☐ Use of supplies or parts not meeting our specifications.
  - ☐ Normal wear and tear.
  - ☐ Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential instal-lation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-position or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

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MU-IP3213	MU-IP3224

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< Part 2 > Matrix Cat6 KVM

MU-1602	MU-1603	MU-1604
MU-3202	MU-3203	MU-3204

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Before Installation

- It is very important to mount the KVM in a suitable cabinet or on a stable surface.
- Make sure the place has a good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.

Unpacking

The KVM comes with the standard parts shown in package content. Check and make sure they are included and in good condition. If anything is missing, or damage, contact the supplier immediately.

Installation for standalone KVM

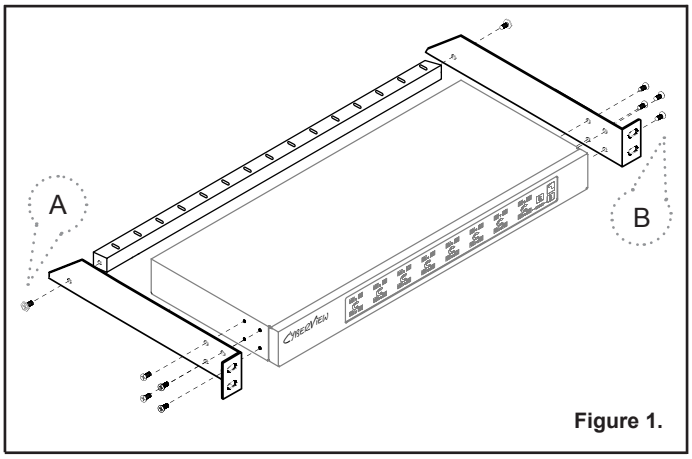


Figure 1.

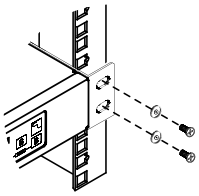
Screw A: 2 pcs

M3.2 x 4.5 mm

Screw B: 8 pcs

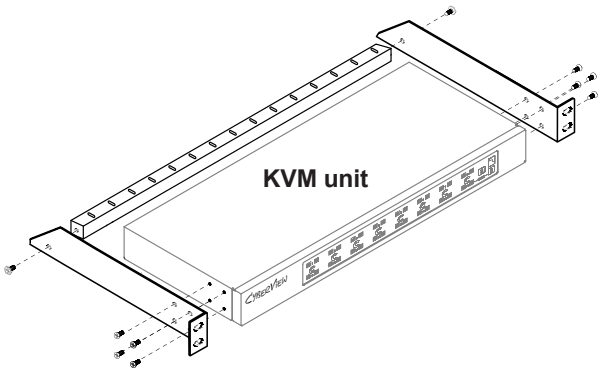
M4 x 10 mm

- Install each bracket using screws provided shown in **Figure 1.**
- Fix the KVM into the rack

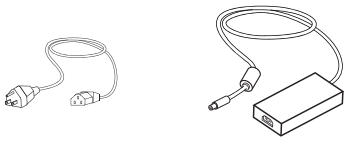


< 1.1 > Package Content

MU-IP1613 / MU-IP3213
MU-IP1624 / MU-IP3224



- Matrix IP KVM unit x 1
- Mounting set w/ bracket & screws x 1
- Power adapter w/ power cord (for KVM) x 1



Receiver box for remote console

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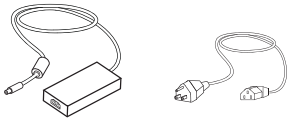

Receiver's power adapter w/ power cord

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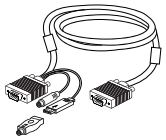
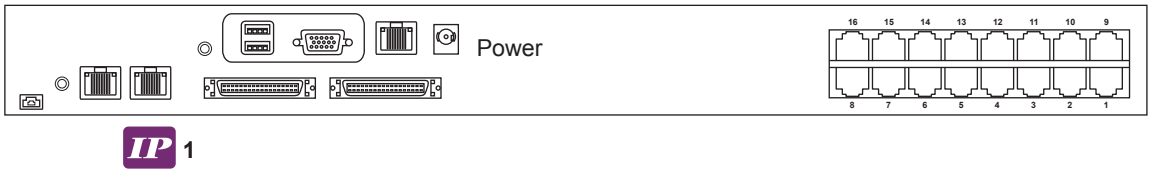


CE-6 KVM cable for receiver box

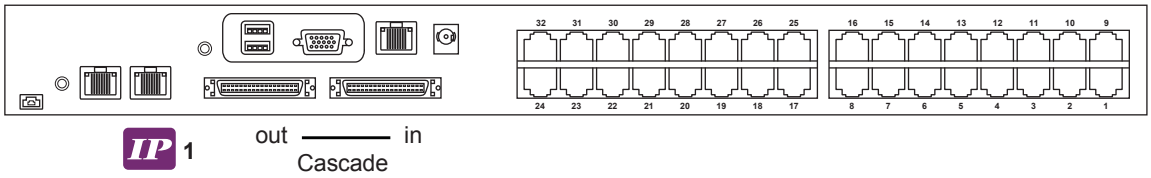
X 1 set

IP console x 1
Local console x 1
Remote console x 1

MU-IP1613

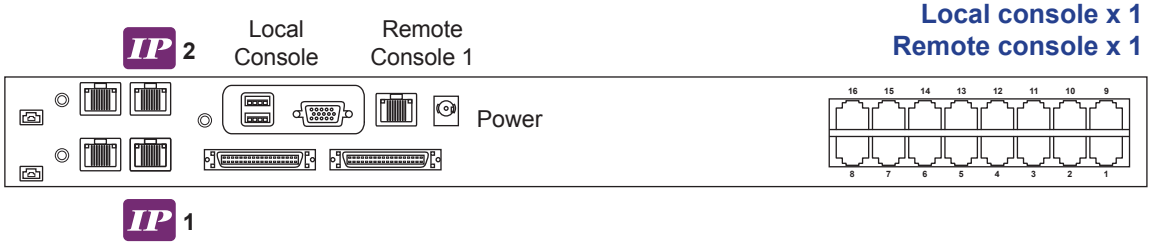


MU-IP3213

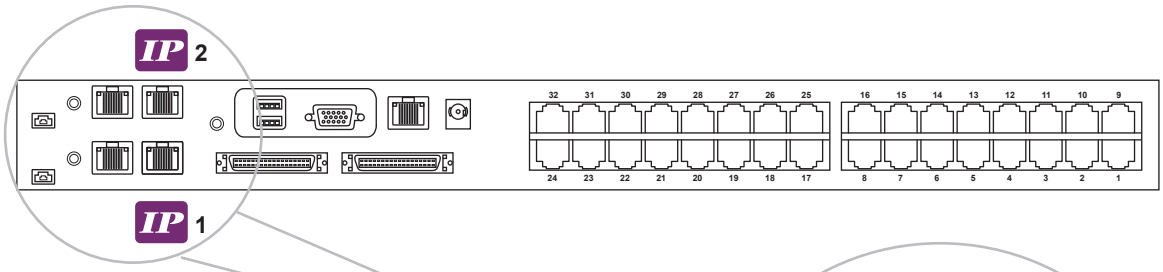


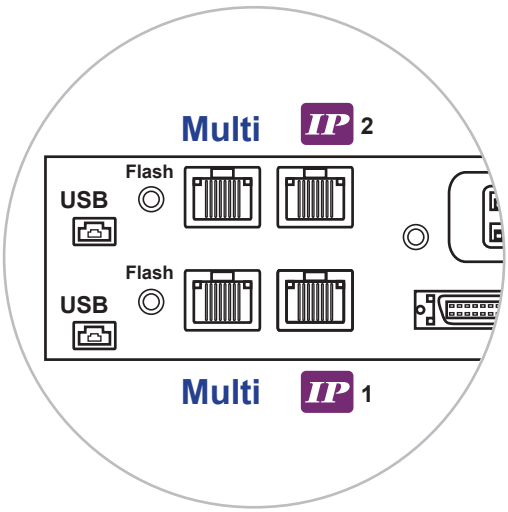
IP console x 2
Local console x 1
Remote console x 1

MU-IP1624



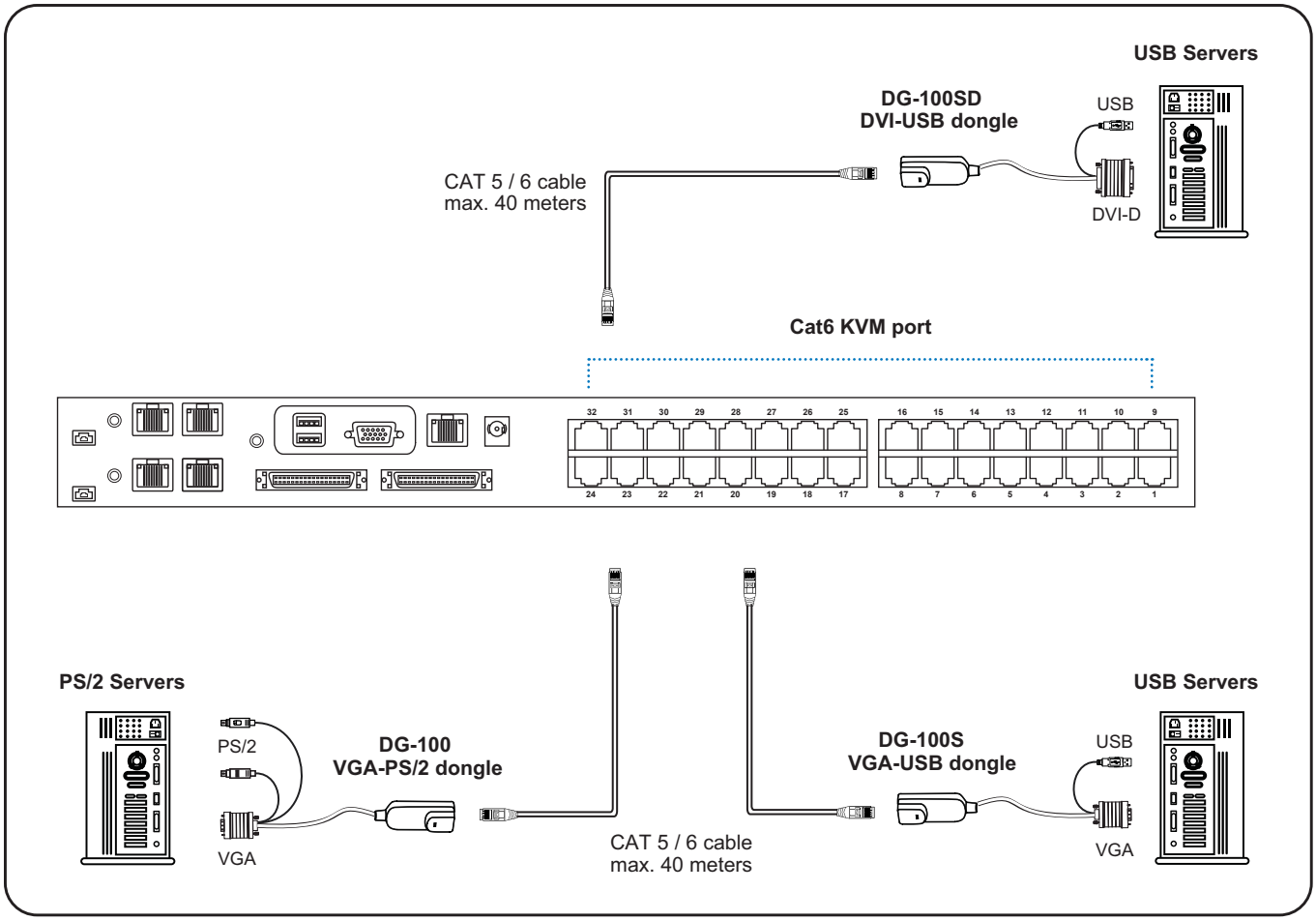
MU-IP3224





Multi port for remote PDU

CyberView IP KVM provides each RJ-45 Multi port to connect up to 16 pcs of InfraPower remote PDUs, so the users can remotely control & manage multi servers & max. 16 pcs remote PDU (16 pcs remote PDU x 2 for dual Multi port)



DG-100SD DVI-USB dongle

- To connect DVI-D connector to the computer's video card
- To connect USB connector to the computer's USB port

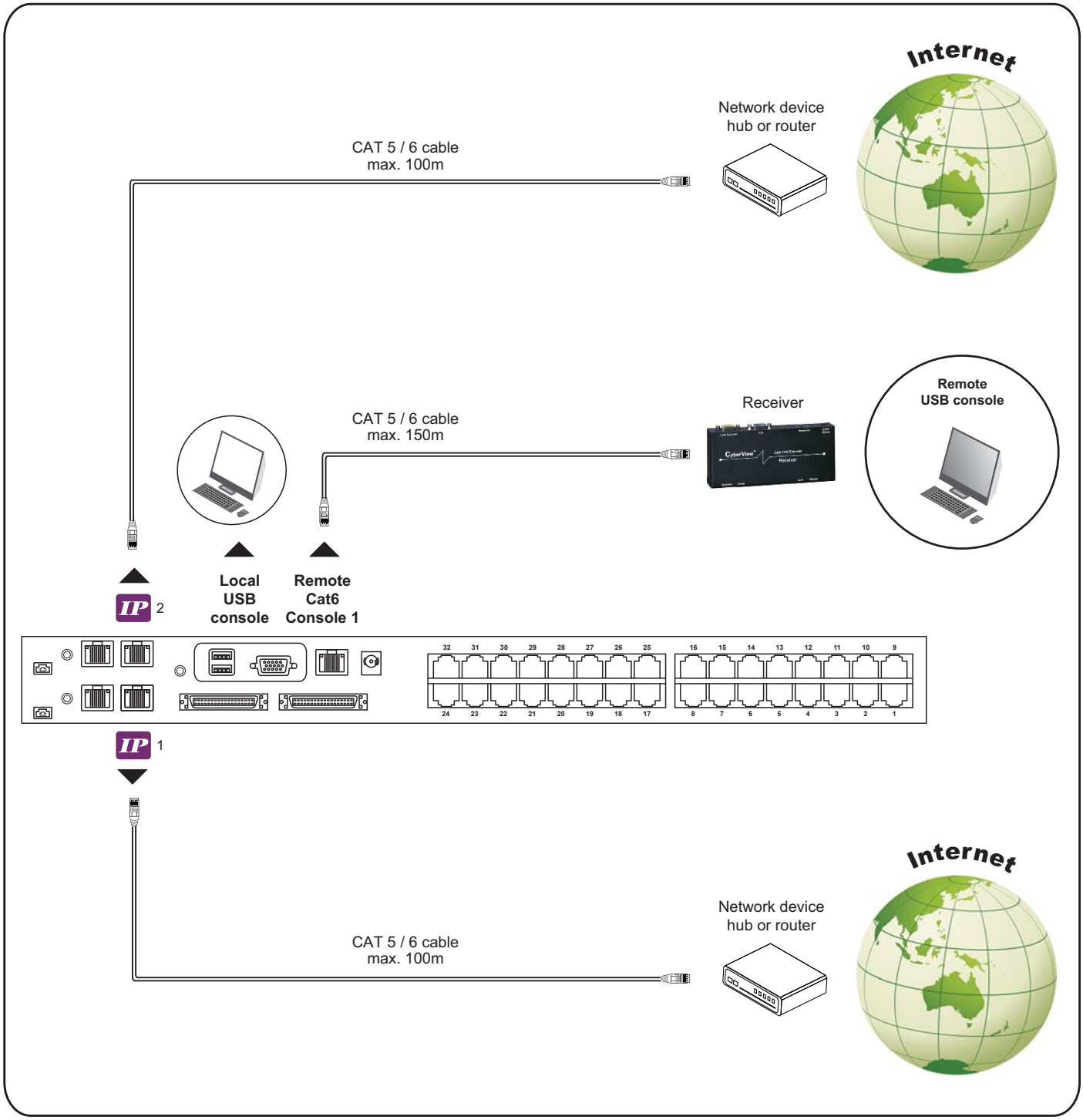
DG-100S VGA-USB dongle

- To connect DB-15 connector to the computer's video card
- To connect USB connector to the computer's USB port

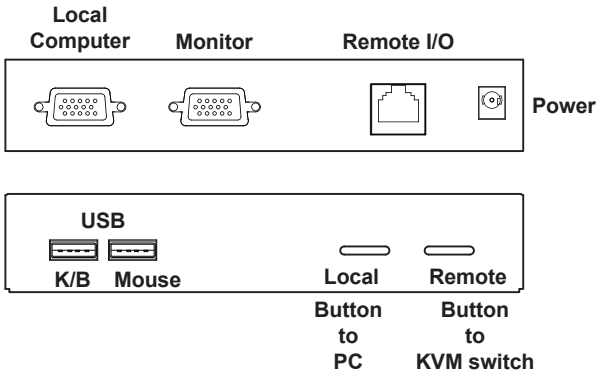
DG-100 VGA-PS/2 dongle

- To connect DB-15 connector to the computer's video card
- To connect PS/2 keyboard connector to the computer's keyboard port
- To connect PS/2 mouse connector to the computer's mouse port

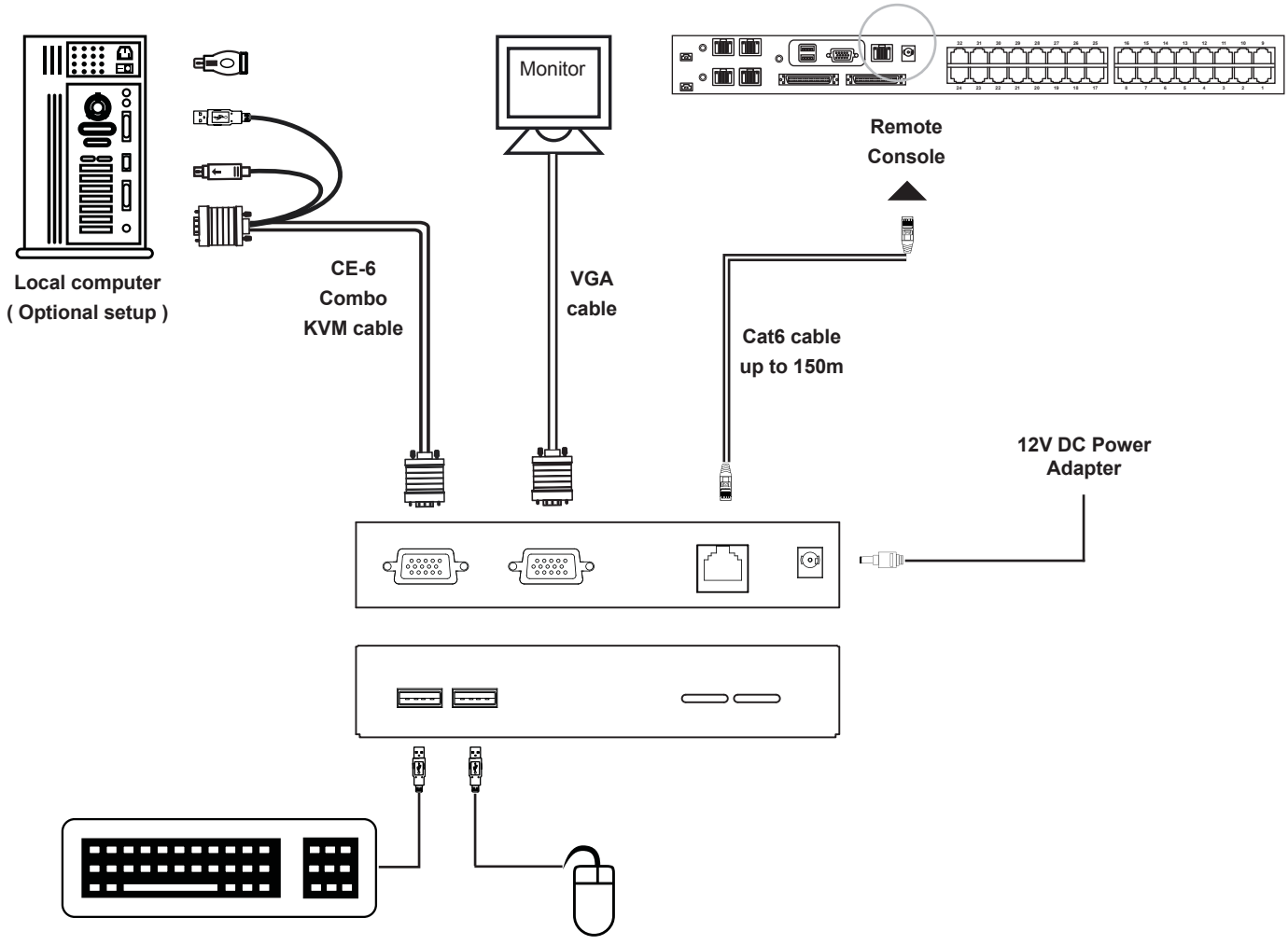
< 1.3 > IP, Remote & Local console connection



Receiver



The receiver provides a hotkey function for remote console. Please refer to P.22



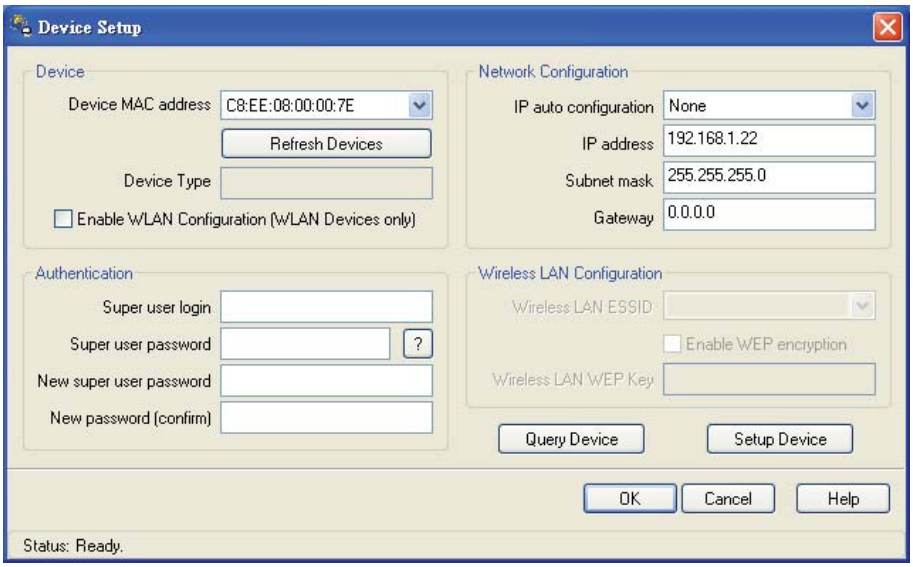
< 1.4 > IP console setting

After the cable connection, please take the following steps to configure the IP KVM :

1. Download IPKVMsetup.exe from the link:

http://rackmount-solutions-pro.comp/utilities/ipkvmsetup.exe

2. Double click IPKVMsetup.exe to configure the IP KVM by device setup as below.



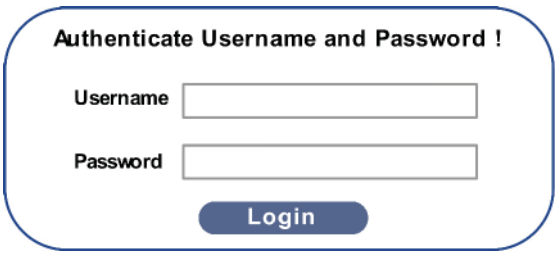
3. Click **Refresh Device** to search the connected IP KVM
4. Select the M.A.C. address, which you want to setup, then click **Query Device**
5. Enter Super user login. **The default is super**
6. Enter Super user password. **The default is pass**
7. Enter the new super user password
8. Re-enter the new password
9. Change the desired IP address / Subnet mask / Gateway, then click **Setup Device** to confirm the setting to IP KVM
10. The default address is as below:--

■ The single IP KVM model, such as MU-IP3213 - http://192.168.1.22

■ The dual IP KVM model, such as MU-IP3224 - http://192.168.1.22 (for 1st IP)
http://192.168.1.23 (for 2nd IP)

11. Open Internet Explorer (I.E.), version 6.0 or above

12. Enter the IP KVM address into the address bar
    - For Single IP - http://192.168.1.22
    - For Dual IP - http://192.168.1.22 (for 1st IP)
      http://192.168.1.23 (for 2nd IP)



13. Enter username (default is super)
    Password (default is pass)

14. After successful login to IP KVM, the user will enter the main page of IP KVM

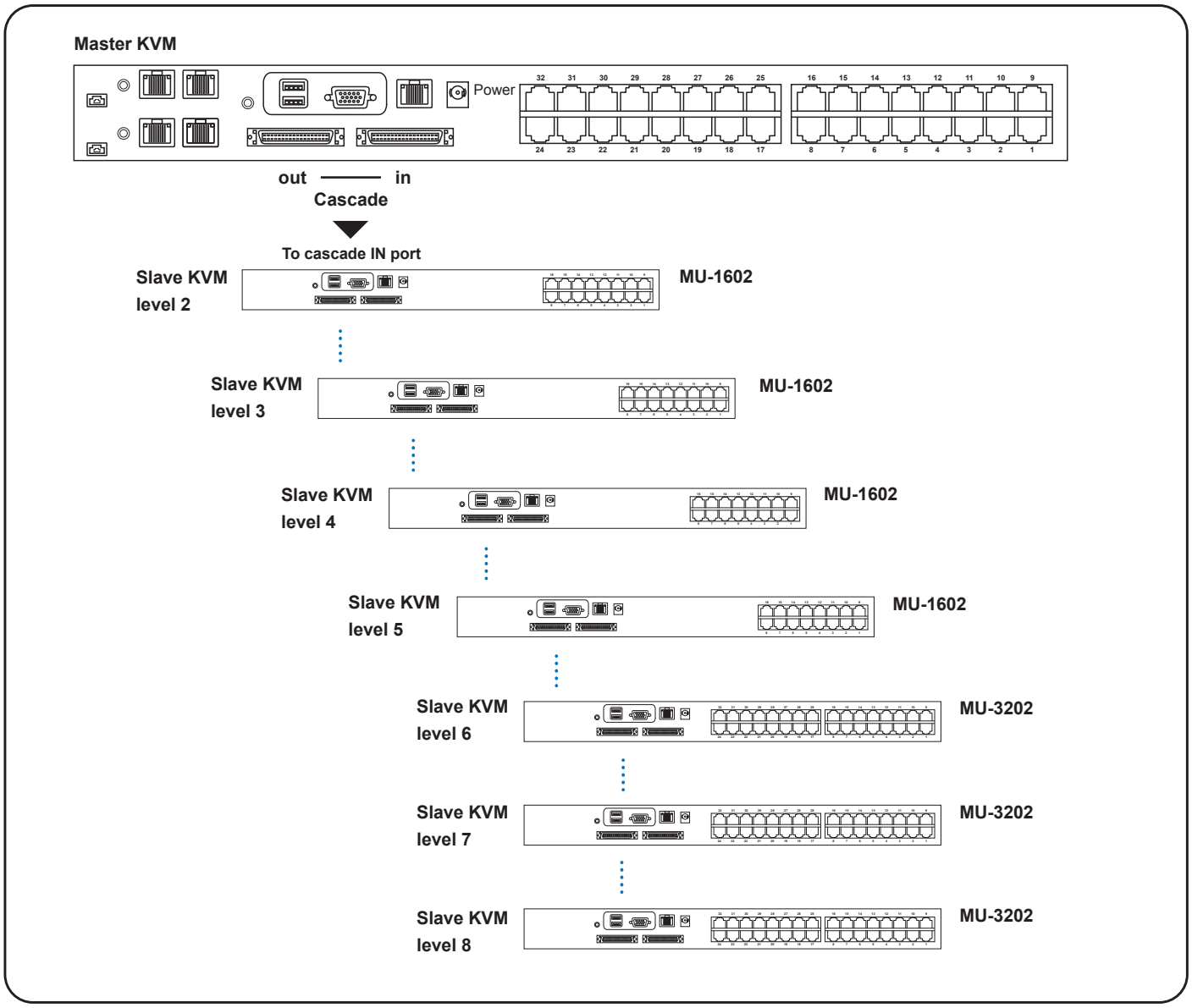
< 1.5 > KVM Cascade

- Cascade up to 8 levels, 256 servers
- Cascading multiple KVM by CMC-6 or CMC-3 cascade cable.

Cascaded KVMs from level 2 to 8 must be the models of MU-1602 / MU-3202 or M-802 / M-1602.

When multiple matrix KVMs cascade together, the master KVM at level 1 will take all control of other slave KVM switches (e.g. level 2 to 8).

The slave matrix KVM will be as a port expansion module of the master matrix KVM, the original remote console on slave KVM will be sacrificed and disabled.



CMC-3

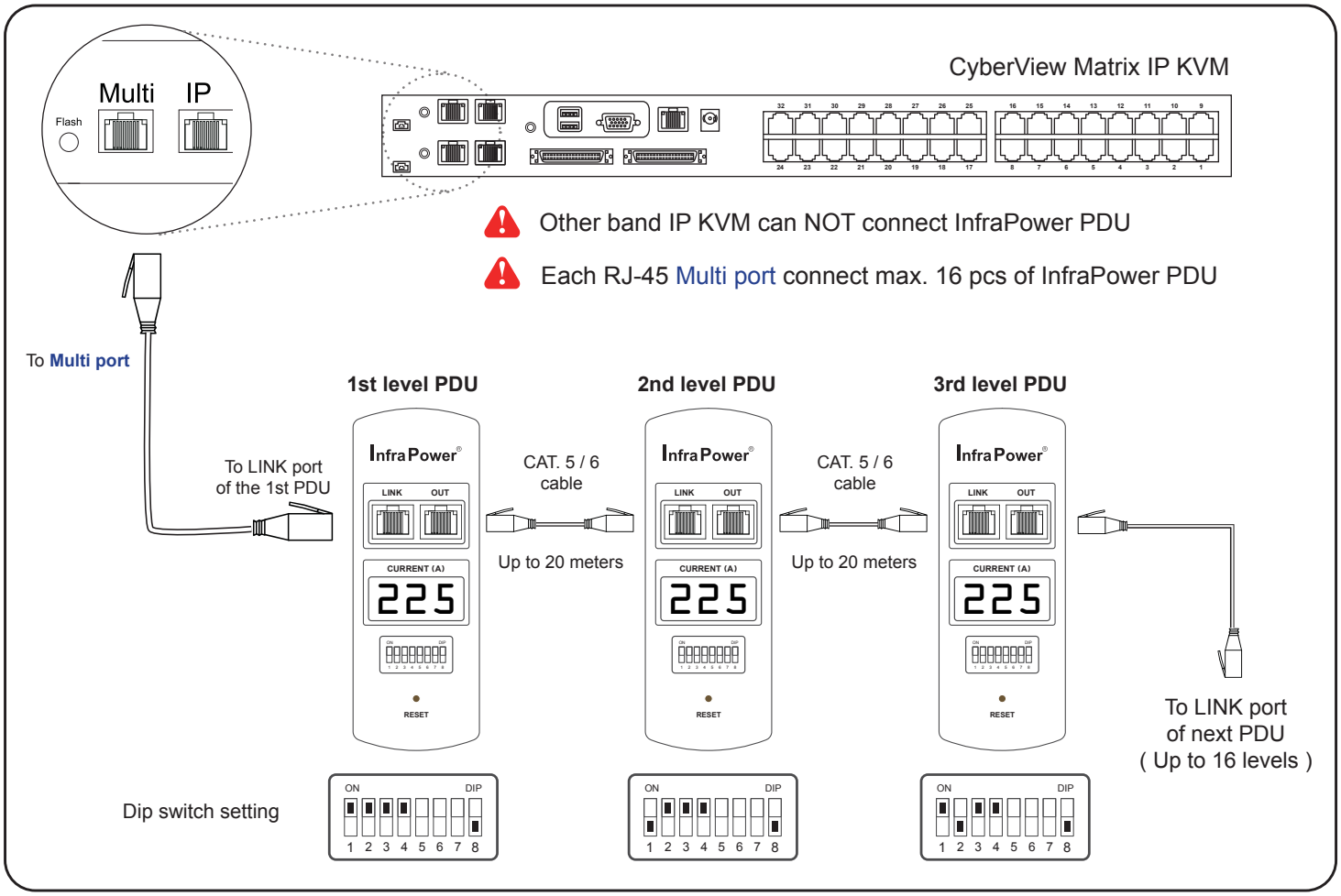
- 3ft Matrix KVM cascade cable

CMC-6

- 6ft Matrix KVM cascade cable

< 1.6 > IP Multi-port connection to remote PDU

CyberView IP KVM provides RJ-45 Multi port for the user to remotely control and manage servers & PDU together.

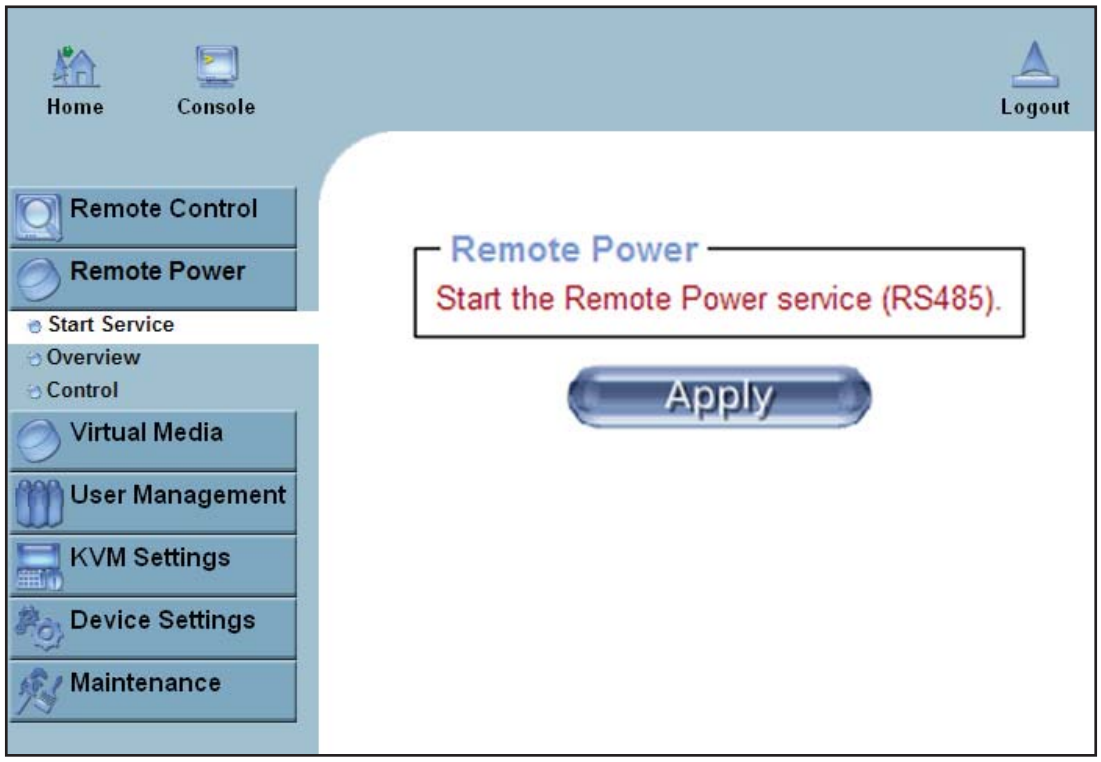


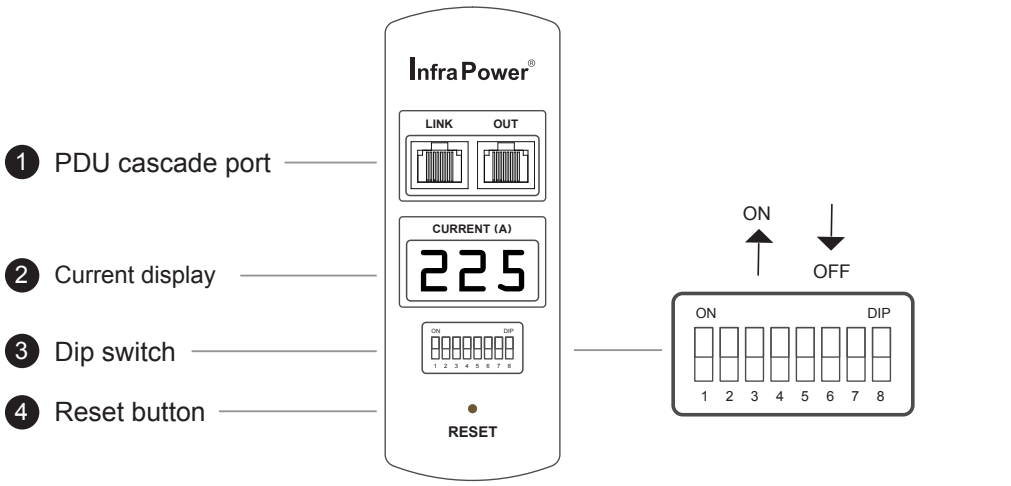
Using the dip switch no. 1, 2, 3, 4 & 8 to setup each PDU level acording to the table :

Cascaded PDUs	Dip switch no.				
	1	2	3	4	8
1st PDU	On	On	On	On	Off
2nd PDU	Off	On	On	On	Off
3rd PDU	On	Off	On	On	Off
4th PDU	Off	Off	On	On	Off
5th PDU	On	On	Off	On	Off
6th PDU	Off	On	Off	On	Off
7th PDU	On	Off	Off	On	Off
8th PDU	Off	Off	Off	On	Off
9th PDU	On	On	On	Off	Off
10th PDU	Off	On	On	Off	Off
11th PDU	On	Off	On	Off	Off
12th PDU	Off	Off	On	Off	Off
13th PDU	On	On	Off	Off	Off
14th PDU	Off	On	Off	Off	Off
15th PDU	On	Off	Off	Off	Off
16th PDU	Off	Off	Off	Off	Off

< 1.6 > IP Multi-port connection to remote PDU

To access the PDU GUI, please enter the IP KVM main page and select
Remote Power > **Start Service** > **Apply**



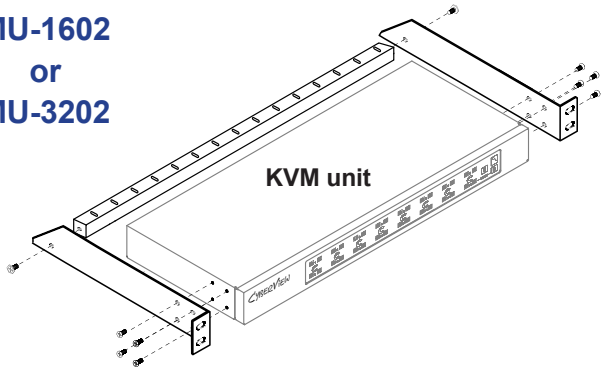


■ For rackmount PDU, ❷ ❸ ❹ on the front panel left , ❶ on the rear panel

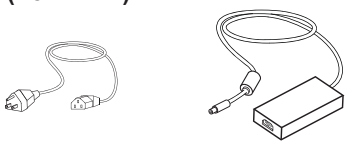
< 1.7 > Specifications

	MU-IP1613 MU-IP3213	MU-IP1624 MU-IP3224
■ **KVM Port**		
Number of ports:	16 or 32	
Connector:	RJ-45	
Connectivity:	DVI-D / VGA connector dongle up to 40 meters (132 feet) via Cat6 / Cat5 cable	
■ **Local Console**		
Monitor port:	HDDB15-pin VGA, up to 1600 x 1200	
Keyboard & mouse port:	2 x USB type connector for keyboard & mouse	
■ **Cat6 Remote Console**		
Number of remote port:	1	
Monitor port:	DB15-pin VGA, up to 1600 x 1200	
Keyboard & mouse port:	2 x USB type connector for keyboard & mouse	
Remote I/O:	RJ45 via Cat5 / Cat5e / Cat6 cable up to 500 feet	
■ **IP Remote Console**		
Number of IP console:	1 for MU-IP1613 / MU-IP3213 2 for MU-IP1624 / MU-IP3224	
User management:	15-user login, 1 x active user	
Browser:	Internet Explorer, Firefox, Safari	
Security:	SSL v3, RSA, AES, HTTP / HTTPs, CSR	
IP Access:	RJ45 Ethernet per IP console	
■ **Expansion:**	Up to 256 servers by 8-level cascade	
■ **Compatibility**		
Multi-platform:	Mix PCs, SUNs, IBMs, HPs, DELLs Server	
Support:	Windows Vista / 2003 / XP / 2000, Linux, Netware, Unix	
■ **Power**		
Input:	AC / DC power adapter	
Option DC:	12V / 24V / 48V DC input	
Consumption:	Max. 48 Watt, Standby 5 Watt	
■ **Regulatory Approval:**	FCC, CE	
■ **Environmental**		
Operating:	0 to 50°C	
Storage:	-5 to 60°C	
Relative humidity:	90%, non-condensing	
Shock:	50G peak acceleration (11ms, half-sine wave)	
Vibration:	58~100Hz / 0.98G (11ms / cycle)	
■ **Product Information**		
Dimension (W x D x H):	448 x 180 x 44 mm / 17.6 x 7.1 x 1.73 inch	
Net weight:	3 kg / 6.5 lb	
■ **Packing Information**		
Dimension (W x D x H):	510 x 400 x 77 mm / 20.1 x 15.7 x 3 inch	
Gross weight:	5 kg / 11 lb	

MU-1602 or MU-3202



- MU-1602 or MU-3202 KVM unit x 1
- Mounting set w/ bracket & screws x 1
- Power adapter w/ power cord (for KVM) x 1



Receiver box for remote console

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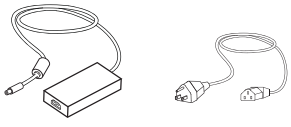

Receiver's power adapter w/ power cord

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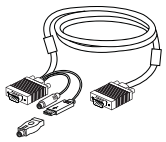
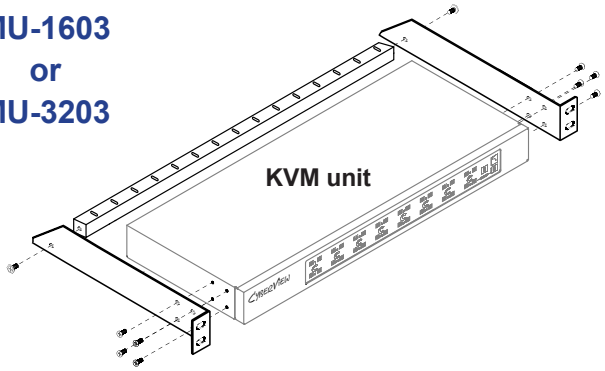


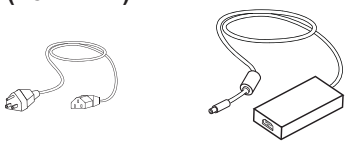
CE-6 KVM cable for receiver box

X 1 set

MU-1603 or MU-3203



- MU-1603 or MU-3203 KVM unit x 1
- Mounting set w/ bracket & screws x 1
- Power adapter w/ power cord (for KVM) x 1



Receiver box for remote console

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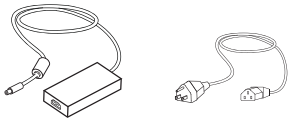

Receiver's power adapter w/ power cord

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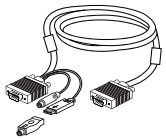
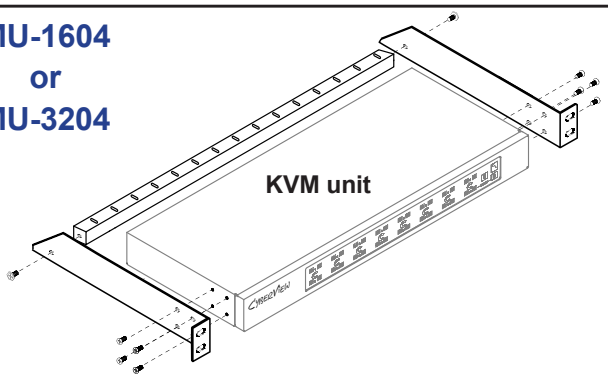


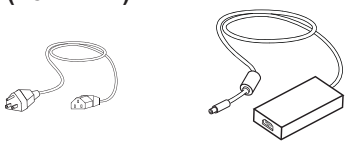
CE-6 KVM cable for receiver box

X 2 sets

MU-1604 or MU-3204

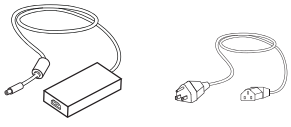


- MU-1604 or MU-3204 KVM unit x 1
- Mounting set w/ bracket & screws x 1
- Power adapter w/ power cord (for KVM) x 1



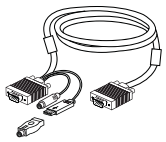
Receiver box for remote console

+



Receiver's power adapter w/ power cord

+

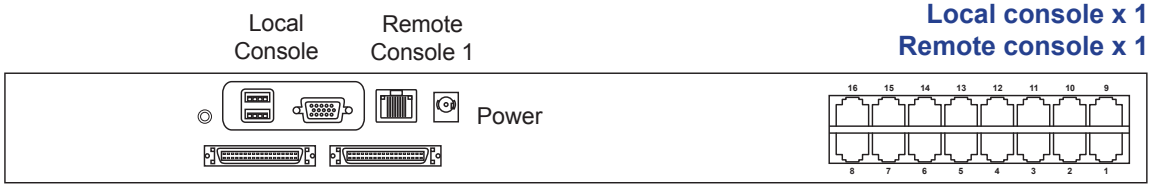


CE-6 KVM cable for receiver box

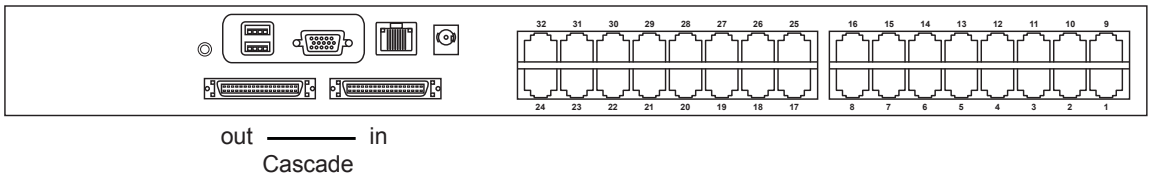
X 3 sets

MU-1602

Local console x 1
Remote console x 1

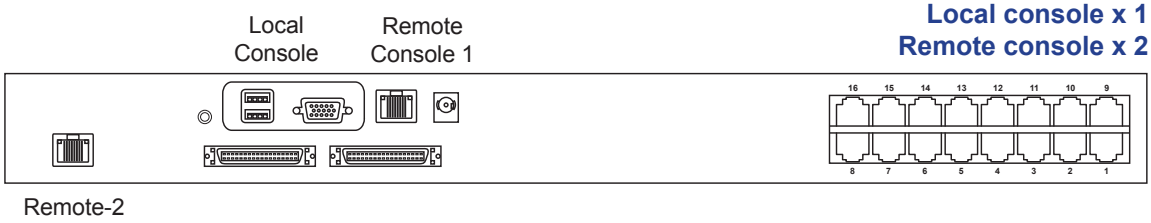


MU-3202

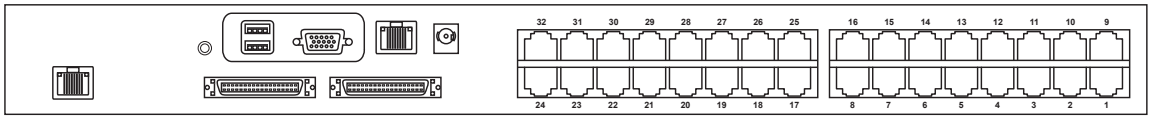


MU-1603

Local console x 1
Remote console x 2

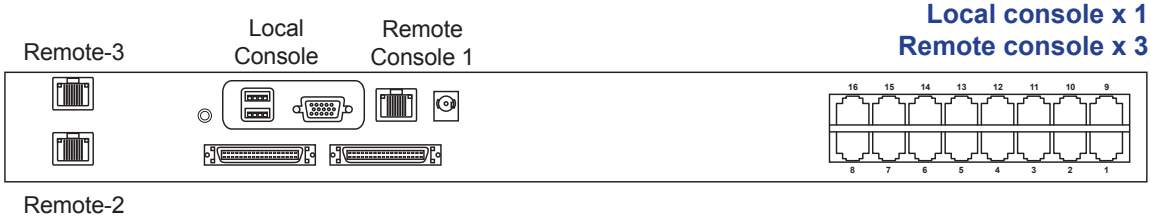


MU-3203

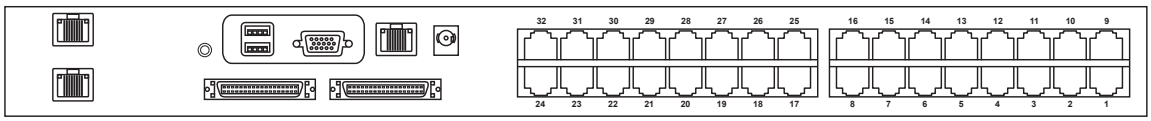


MU-1604

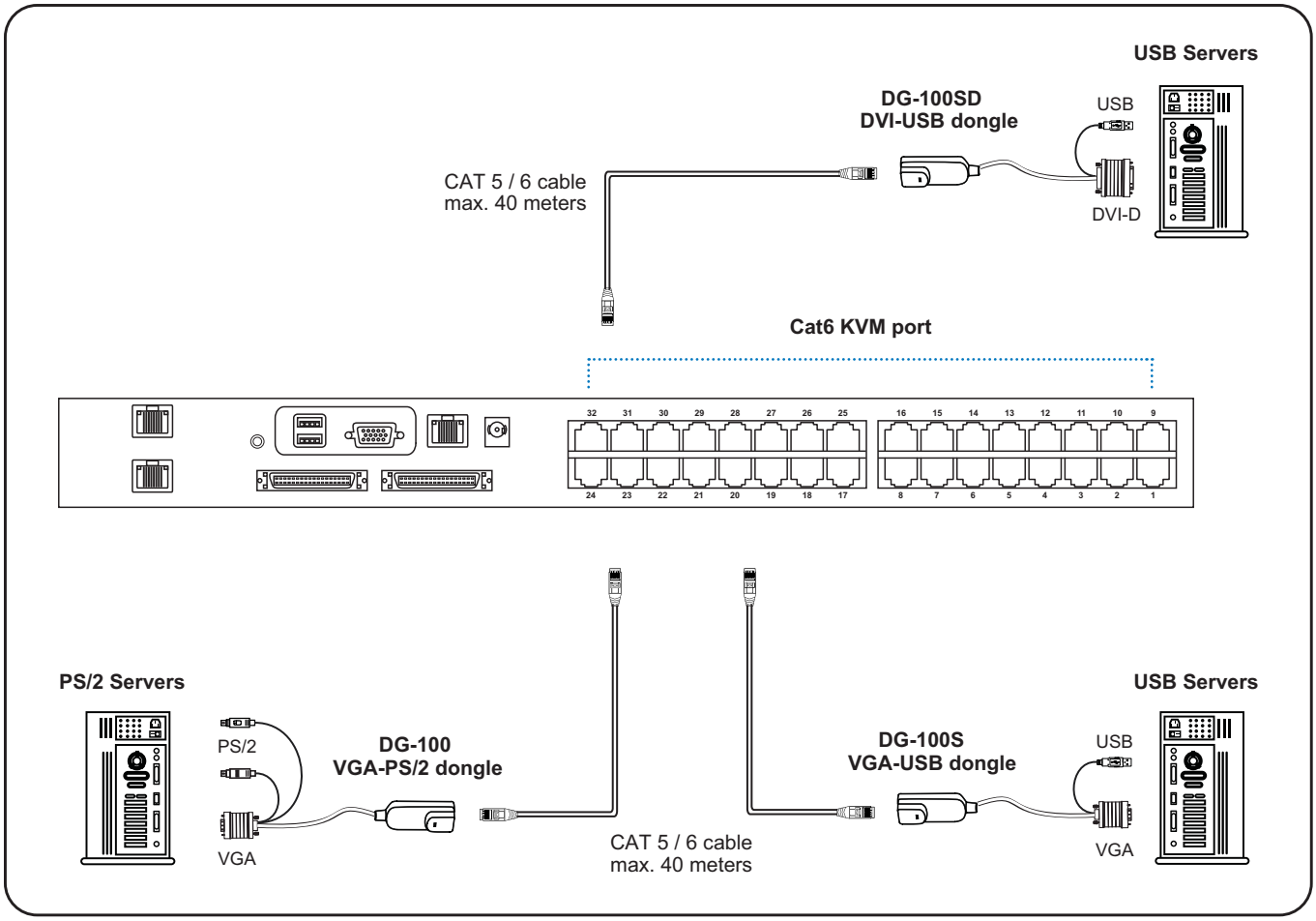
Local console x 1
Remote console x 3



MU-3204



< 2.2 > KVM port & Cat6 dongle connection



DG-100SD DVI-USB dongle

- To connect DVI-D connector to the computer's video card
- To connect USB connector to the computer's USB port

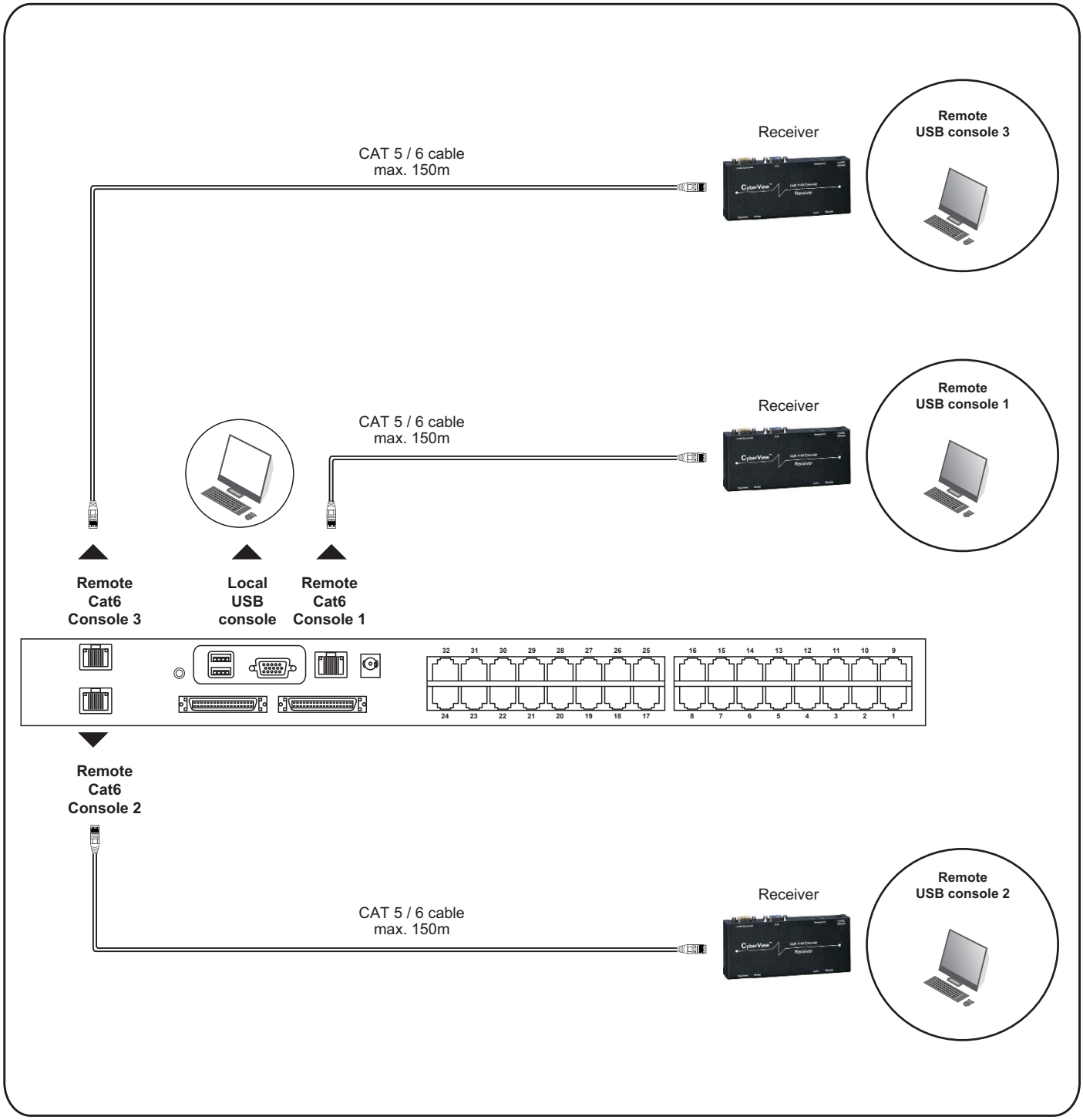
DG-100S VGA-USB dongle

- To connect DB-15 connector to the computer's video card
- To connect USB connector to the computer's USB port

DG-100 VGA-PS/2 dongle

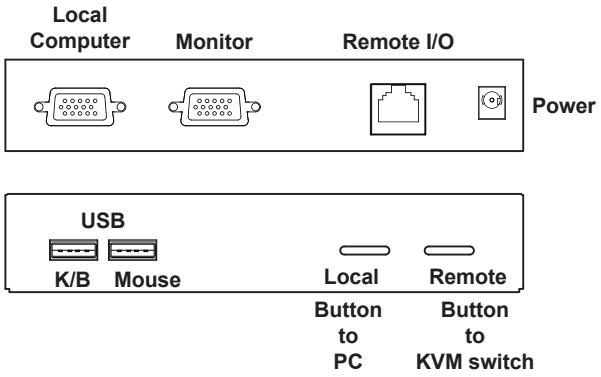
- To connect DB-15 connector to the computer's video card
- To connect PS/2 keyboard connector to the computer's keyboard port
- To connect PS/2 mouse connector to the computer's mouse port

< 2.3 > Local console & remote console connection

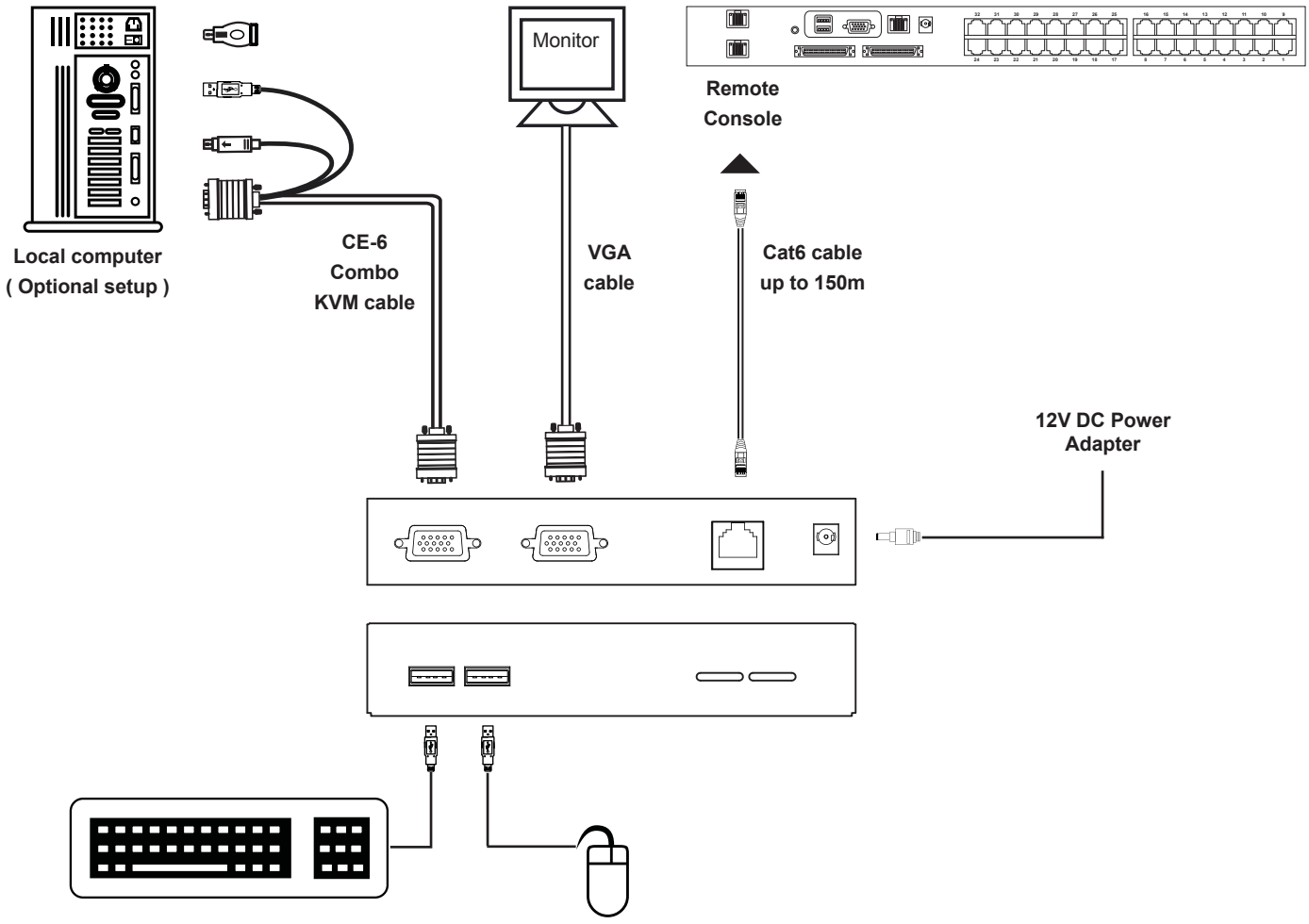


How to use a receiver to connect a remote console

Receiver



The receiver provides a hotkey function for remote console. Please refer to P.22



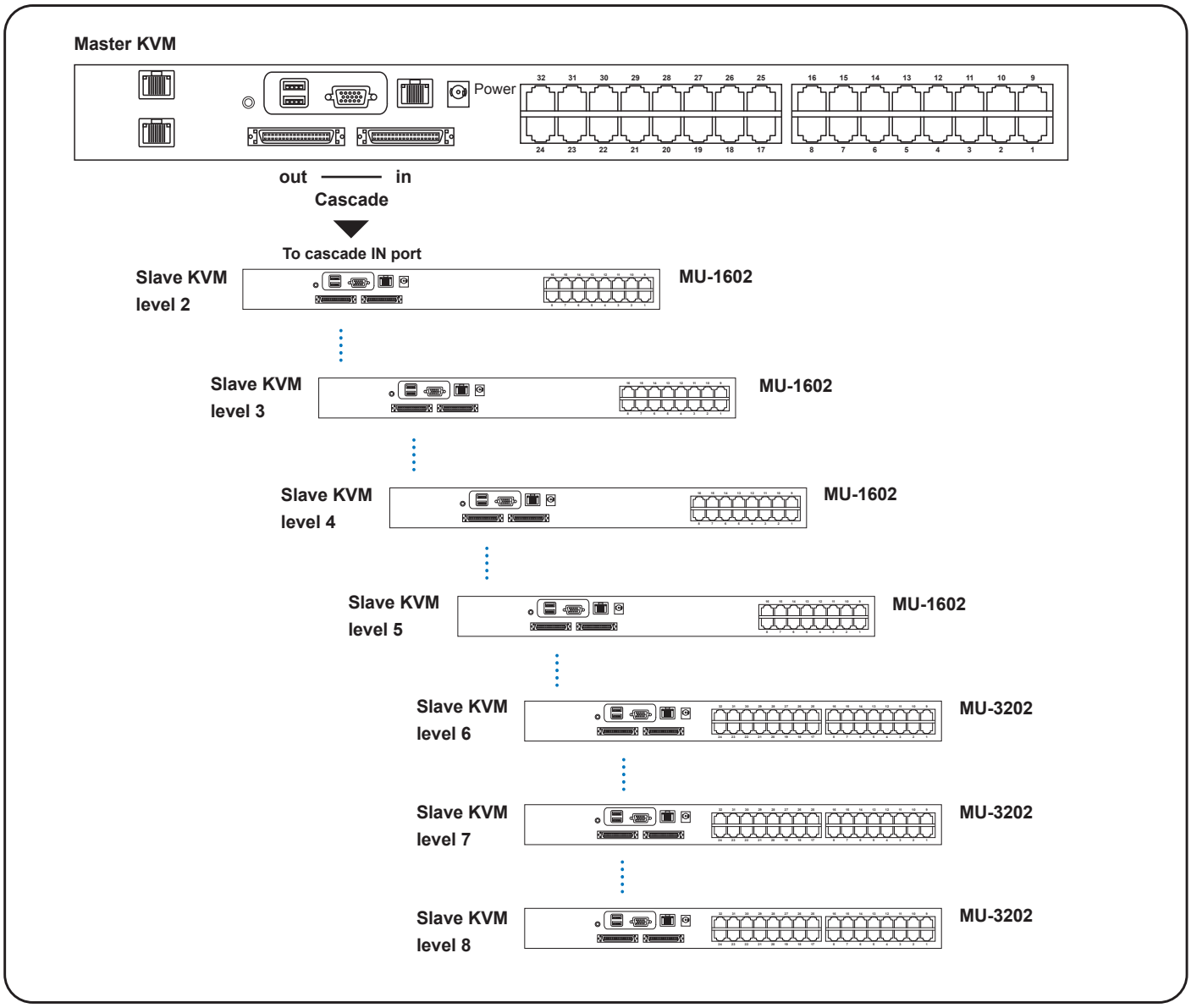
< 2.4 > KVM Cascade

- Cascade up to 8 levels, 256 servers
- Cascading multiple KVM by CMC-6 or CMC-3 cascade cable.

Cascaded KVMs from level 2 to 8 must be the models of MU-1602 / MU-3202 or M-802 / M-1602.

When multiple matrix KVMs cascade together, the master KVM at level 1 will take all control of other slave KVM switches (e.g. level 2 to 8).

The slave matrix KVM will be as a port expansion module of the master matrix KVM, the original remote console on slave KVM will be sacrificed and disabled.



CMC-3

- 3ft Matrix KVM cascade cable

CMC-6

- 6ft Matrix KVM cascade cable

< 2.5 > Specifications

	MU-1602 MU-3202	MU-1603 MU-3203	MU-1604 MU-3204
■ **KVM Port**			
Number of ports:	16 or 32		
Connector:	RJ-45		
Connectivity:	DVI-D / VGA connector dongle up to 40 meters (132 feet) via Cat6 / Cat5 cable		
■ **Local Console**			
Monitor port:	1 x DB15-pin VGA, up to 1600 x 1200		
Keyboard & mouse port:	2 x USB type connector for keyboard & mouse		
■ **Cat6 Remote Console**			
Number of remote port:	1 for MU-1602 / MU-3202	2 for MU-1603 / MU-3203	3 for MU-1604 / MU-3204
Monitor port:	DB15-pin VGA, up to 1600 x 1200		
Keyboard & mouse port:	2 x USB type connector for keyboard & mouse		
Remote I/O:	RJ45 via Cat5 / Cat5e / Cat6 cable up to 500 feet		
■ **Expansion:**	Up to 128 servers by 8-level cascade		
■ **Compatibility**			
Multi-platform:	Mix PCs, SUNs, IBMs, HPs, DELLs Server		
Support:	Windows Vista / 2003 / XP / 2000, Linux, Netware, Unix		
■ **Power**			
Input:	AC / DC power adapter		
Option DC:	12V / 24V / 48V DC input		
Consumption:	Max. 48 Watt, Standby 5 Watt		
■ **Regulatory Approval:**	FCC, CE		
■ **Environmental**			
Operating:	0 to 50°C		
Storage:	-5 to 60°C		
Relative humidity:	90%, non-condensing		
Shock:	50G peak acceleration (11ms, half-sine wave)		
Vibration:	58~100Hz / 0.98G (11ms / cycle)		
■ **Product Information**			
Dimension (W x D x H):	448 x 180 x 44 mm / 17.6 x 7.1 x 1.73 inch		
Net weight:	3 kg / 6.5 lb		
■ **Packing Information**			
Dimension (W x D x H):	510 x 400 x 77 mm / 20.1 x 15.7 x 3 inch		
Gross weight:	5 kg / 11 lb		

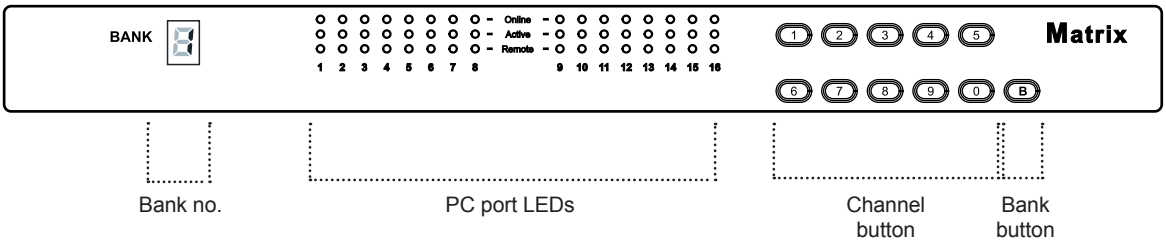
3.1 KVM Button

Power ON

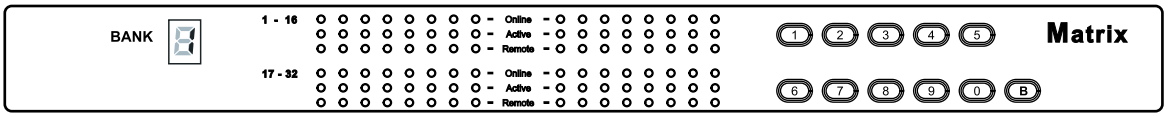
- Turn off all servers and KVM switches
- Make sure all cables / connectors are properly connected
- Recommend Power ON sequence is monitor, KVM switch finally computer

Front Panel - Port LED Indications

16 ports



32 ports



Bank no.	7-Segment BANK LED indication
PC port LEDs	***Online*** : **Blue** LED on indicating a PC is connecting to the port ***Active*** : **Green** LED on indicating a selected channel ***Remote*** : **Orange** LED on indicating the port is selecting by IP / remote console
Channel button	Press to select channel from 01 to 32
Bank button	Select the bank from 1 to 8

3.2 Password

The password is enabled by default, the default password is “00000000” eight zeros **(Do not use “0” on number pad)**

■ **Enable password**

1. Press the KVM hotkey **Scroll Lock + Scroll Lock + U**
2. Logout the KVM by pressing the hotkey **Scroll Lock + Scroll Lock + P**
3. In SUPERVISOR level, enter “00000000” eight zeros in user name & password field **(Do not use “0” on number pad)**
4. In USER level, press **Space bar** + **Enter** in user name & password field

   Remark: Automatic logout after 10 minutes of inactivity

■ **Set your own user name & password**

1. Login the KVM in SUPERVISOR level by pressing “00000000” eight zeros in user name & password field
2. Call KVM OSD menu by pressing the KVM hotkey **Scroll Lock + Scroll Lock + Space Bar**
3. Press **F1** to the MAIN MENU
4. Select “USER SECURITY”
5. Set password in SUPERVISOR & USER level
   a. In the left-top row “S” (SUPERVISOR), press **Enter** to set your own user name & password
   b. In the row 1 to 8 (USER), press **Enter** to set your own user name & password
6. Press **Enter** to save the setting or press **Esc** to cancel the editing without any change

   Remark: a. Blank has underscore, while SPACE doesn’t have
   b. Press any alphanumeric key to move to next input item. SPACE is treated as a valid character

■ **Change your password**

1. Login the KVM in SUPERVISOR level by pressing your own user name & password
2. Call KVM OSD menu by pressing the KVM hotkey **Scroll Lock + Scroll Lock + Space Bar**
3. Press **F1** to the MAIN MENU
4. Select “USER SECURITY”
5. Change password in SUPERVISOR & USER level
   a. In the left-top row “S” (SUPERVISOR), press **Enter** to change your user name & password
   b. In the row 1 to 8 (USER), press **Enter** to change your user name & password
6. Press **Enter** to save the setting or press **Esc** to cancel the editing without any change

   Remark: a. Blank has underscore, while SPACE doesn’t have
   b. Press any alphanumeric key to move to next input item. SPACE is treated as a valid character

■ **Disable your password**

1. Press the KVM hotkey **Scroll Lock + Scroll Lock + U**
2. Logout the KVM by pressing the KVM hotkey **Scroll Lock + Scroll Lock + P**
3. You don’t need user name & password to access the KVM OSD menu

■ **Forget your password**

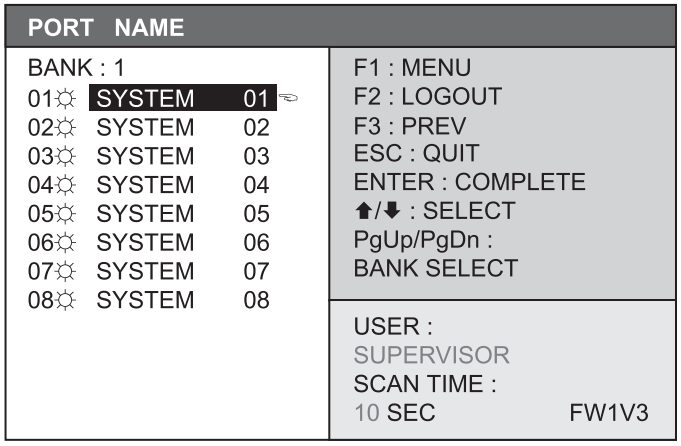
Please contact your supplier for further support

Remark:

■ You must press the KVM hotkey within 2 seconds

■ A beep sound will be heard for successful entering KVM hotkey

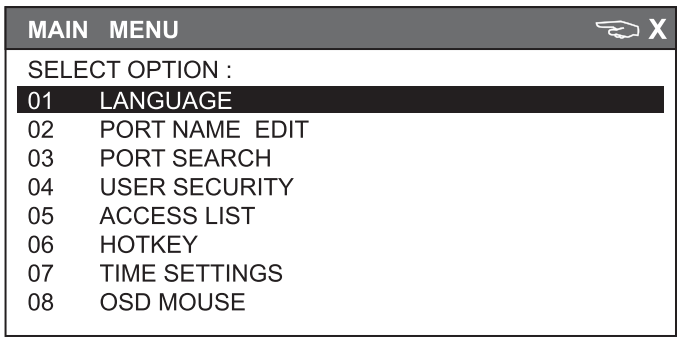
OSD Menu



OSD operation

☼ next to the system name	The PC is powered on
☜ next to the system name	The PC is selected
F1	Access F1 MAIN MENU
F2	Logout the OSD menu
F3	Previous menu
Esc	Cancel / Quit
Enter	Complete / Switch to selected port
⬆/⬇	Switch to previous or next port
PgUp/PgDn	Switch to previous bank or next bank
1 / 2 / 3 / 4	Display port 01 ~ 08 / 09 ~ 16 / 17 ~ 24 / 25 ~ 32 Remark: Display port 17 ~ 32 for 32 port model only

F1 Main Menu



01 LANGUAGE	OSD language change
02 PORT NAME EDIT	Define port name
03 PORT SEARCH	Quick searching by port name
04 USER SECURITY	Change password
05 ACCESS LIST	Define user access authority
06 HOTKEY	Change hotkey
07 TIME SETTINGS	Modify scan display time interval
08 OSD MOUSE	Modify OSD mouse speed

Local Console Hotkey	Function
Scroll Lock + **Scroll Lock** + **Space Bar**	Calling OSD menu
Right-button mouse + **Esc**	Calling OSD menu
Scroll Lock + **Scroll Lock** + ⬆	Switch to previous port
Scroll Lock + **Scroll Lock** + ⬇	Switch to next port
Scroll Lock + **Scroll Lock** + **PgUp / PgDn**	Switch to previous bank or next bank
Scroll Lock + **Scroll Lock** + Bank no. + Port no.	Switch to specific port
Scroll Lock + **Scroll Lock** + **B**	Turn the buzzer ON and OFF * Default the buzzer is ON
Scroll Lock + **Scroll Lock** + **P**	Logout the KVM if password security is ON. Show up the status windows

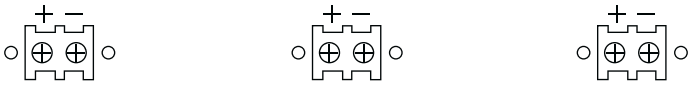
Advance hotkeys (for Supervisor login only)	
Scroll Lock + **Scroll Lock** + **S**	Activate auto-scan mode for connected servers *Press any key to exit the auto-scan mode
Scroll Lock + **Scroll Lock** + **R**	Reset all the KVM settings to factory default *Except User Security settings
Scroll Lock + **Scroll Lock** + **U**	Disable and enable password security *Default security is ON
Scroll Lock + **Scroll Lock** + **L**	To enable / disable the screen saving function and 10 minutes auto-logout *Default the screen saving is OFF

Remarks:

- Example of "**Scroll Lock** + **Scroll Lock** + Bank no. + Port no."
  - Bank No. : 1 to 8
  - Port No. : 01 to 16
  - e.g. Bank 1 Port 4 : **Scroll Lock** + **Scroll Lock** + **1** + **0** + **4**
  - e.g. Bank 2 Port 16 : **Scroll Lock** + **Scroll Lock** + **2** + **1** + **6**
- You must press the hotkey within 2 seconds
- A beep sound will be heard for successful entering
- The numeric keypad is not supported, while in OSD screen, the arrow keys, PgUp, PgDn, and Enter keys are supports

Remote Console Hotkey	Function
Scroll Lock + **Scroll Lock** + **C**	Toggle switch between remote & local port
Scroll Lock + **Scroll Lock** + **Q**	Turn the buzzer ON & OFF *Default the buzzer is ON
Scroll Lock + **Scroll Lock** + **S**	Activate auto-scan mode for remote & local port *The scan time interval is 5 seconds
Scroll Lock + **Scroll Lock** + **A**	Auto-adjust the video signal

3.5 DC Power 12V, 24V, 48V Input



Model	12V	24V	48V
Input rating			
Input voltage:	12-Volt	24-Volt	48-Volt
Input range:	9 ~ 18V	18 ~ 36V	36 ~ 75V
Input current			
- No load	50 mA	50 mA	50 mA
- Full load	4950 mA	2450 mA	1220 mA
Output rating			
Output voltage:	12-Volt	12-Volt	12-Volt
Output current:	4.16A	4.16A	4.16A
Efficiency	84%	85%	85%

Remarks:

■ Package does not include power cord

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